

Remarks

Claims 21-23, 25, 29-34, 37, and 39 are pending. Claim 37 has been allowed. Favorable reconsideration of the remaining claims, as amended, is respectfully requested.

Applicants have amended the claims to recite, in independent claims 21, 26, 30, and 33, that the isocyanate deactivator is present in an amount of from 0.0084% to 0.2% by weight. Support for these values comes from Example 1 (0.2%) and Example 4 (0.0084%). As the specification indicates in numerous places, and as a central argument during the entire prosecution, the isocyanate deactivators are employed in very small amounts, far too little to act as a scavenger, yet their effect on the composition is clear, unexpected, and surprising.

The claims have also been amended to remove the redundancy of claims 29 and 32, which should not have been dependent from claim 21 as presented, but from claims 26 and 30, respectively. Applicants apologize for this error, and have corrected the dependencies of these claims.

Claims 23-24, 27-28, 35-36, and 38-39 were rejected under 35 U.S.C. § 112 for lacking basis in the specification. While it should be clear that the amount of deactivator is less than a stoichiometric amount based on all -OH groups, since the amount of the deactivator is so small, claims 23, 27, 35, and 38, which contain this limitation, have been cancelled to expedite prosecution.

Claims 24, 28, and 36, which contained the limitation that the isocyanate deactivator be present in an amount of 0.018% to 0.2% by weight have been cancelled. Applicants apologize for the error with respect to 0.018%; this should have been 0.0084%. The range of 0.0084% (Example 4) and 0.2% (Example 1) have been inserted into independent claims 21, 26, 30, 33, and by amendment into claim 39. It is well established in the law that endpoints of a range may be taken from the examples. Here, Examples 1 and 4 are the

extremes in the examples, with the values in Examples 2 and 3 being intermediate. Thus, there is no issue of new matter. Withdrawal of the rejections under 35 U.S.C. § 112 is solicited.

Applicants respectfully submit that the rejections over the art of record have been overcome by Applicant's claim amendments and showing. In the last Office Action, the Examiner acknowledged that he understood, as Applicants have asserted all along, very small quantities of isocyanates are employed in Applicants' invention, and yet the storage stability is markedly improved. As Applicants have indicated, the amounts of isocyanate employed (maximally 0.2 weight percent), are far too little to act as a water scavenger, particularly so, since an aminomethylalkoxysilane, which is a very powerful water scavenger itself, is present in sufficient quantities to react with any water present. In fact, Applicants were highly surprised that the small amount of isocyanate would have the effect it does. The Examiner has stated that he cannot see this unexpected behavior in the examples and comparative examples. Applicants respectfully request the Examiner to reconsider these examples.

The problem solved by the invention is discussed at the beginning of the specification. It is highly desirable to provide RTV-1 compositions which can be used as caulks and sealants, and such compositions are well known. However, prior art compositions prepared from accessible components suffer from two problems: first, a higher than desired modulus, which causes them to separate from the components joined together due to movement, thermal expansion, etc., and second, a low storage life, indicated by yet further increase in modulus, and measurable by measurements of the composition's aged viscosity.

Example 1 is a subject invention example, and employs only 0.2 weight percent of cyclohexyl isocyanate deactivator. The RTV-1 composition prepared from this deactivated mixture exhibited a loss of viscosity of 34% from an initial value of 1300 mPa·s, reaching 860 mPa·s after three days. In contrast, Comparative Example 1 is the same composition, except for the 0.2 weight percent isocyanate, and at the time of initial viscosity measurement had a viscosity of only 560 mPa·s, already a loss of 57%! After three days storage, the viscosity had

decreased to only 170 mPa·s, a loss of 70% of its initially measured value, and a loss of 87% as compared to Example 1. This difference is truly surprising and unexpected!

Examples 2 and 3 employ even less deactivator (about 0.05%), and differ only in the order of mixing. Both compositions cured to highly extensible and low modulus compositions (desirable of caulks and sealants). Comparative Example 2 is the same formulation as that of Example 3, but omitted the isocyanate deactivator, while Comparative Example 3 omitted the aminomethylalkoxysilane. Neither of these produced any near the extensibility or low modulus of the subject invention examples. Only when both the deactivator and the aminomethylalkoxysilane are both present can the subject invention's benefits be achieved. The results are represented in the table below:

Example	% isocyanate present	secondary amino-methylalkoxysilane present?	Extensibility (%)	Modulus (mPa·s)
2	0.05	yes	760	0.25
3	0.05	yes	780	0.28
C2	---	yes	580	0.38
C3	0.05	no	511	0.42

As the table shows, the comparative formulations had, on average, 29% less extensibility, and, even more importantly, 51% higher modulus. The subject invention compositions are surprisingly successful in solving the problem addressed: providing storage stable, highly extensible, and low modulus compositions, despite adding less than 0.2% of deactivator. The prior art does not direct the skilled artisan to this beneficial result.

The Examiner also indicated that the experimental results were not commensurate with the scope of the claims. Since the claims are now commensurate with the actual examples, Applicants submit that this statement is no longer tenable.

Entry of the Amendment is earnestly solicited. The Amendment adds no new claims and creates no new issues. It also addresses previous issues, thus removing issues from appeal, should appeal be necessary. Applicants submit, in all fairness, that they have bestowed a highly useful improvement in technology to the public, one not taught nor suggested by the art, and deserve to be rewarded for their efforts.

Applicants submit that the claims are now in condition for Allowance, and respectfully request a Notice to that effect. If the Examiner believes that further discussion will advance the prosecution of the Application, the Examiner is highly encouraged to telephone Applicants' attorney at the number given below.

Please charge any fees or credit any overpayments as a result of the filing of this paper to our Deposit Account No. 02-3978.

Respectfully submitted,

Uwe Scheim et al.

By 

William G. Conger

Reg. No. 31,209

Attorney/Agent for Applicant

Date: June 13, 2006

BROOKS KUSHMAN P.C.
1000 Town Center, 22nd Floor
Southfield, MI 48075-1238
Phone: 248-358-4400
Fax: 248-358-3351